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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,797	02/25/2002	Masahiro Sawada	9683/106	2048
79510	7590	12/11/2008	EXAMINER	
NTT Mobile Communications Network I/BHGL			DESIR, PIERRE LOUIS	
P.O. Box 10395				
Chicago, IL 60610			ART UNIT	PAPER NUMBER
			2617	
			MAIL DATE	DELIVERY MODE
			12/11/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/082,797	SAWADA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	PIERRE-LOUIS DESIR	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 27 August 2008.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 22-37, 47 and 48 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 22-37, 47 and 48 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on 08/27/2008 have been fully considered but they are not persuasive.

2. Applicants argue that the base station disclosed in the reference does not control or manage the operation of a transportation system.

Examiner respectfully disagrees. Kojima discloses a system wherein information representative of the position at which a mobile space exists is stored in another memory area 58 of the position registration memory, and the stored contents of the memory area 58 include data 51 representative of a service area number, data 52 representative of mobile station information relating to the mobile space (base station opposing transmission-reception apparatus 23), and data 53 representative of an imaginary service area number (see col. 4, lines 13-39).

Kojima also discloses that the switching control station 7 has a function of updating, when the mobile space moves in the real space and performs a position registration operation, also the position information of the mobile station from the identification number of the mobile space, in which the mobile station is present, acquired through the base station (see col. 4, lines 40-58). Kojima further discloses that the base station opposing transmission-reception apparatus 23 carried in the mobile space 9 acquires system information, call origination channels and so forth) of the service area in which the base station opposing transmission-reception apparatus 23 is present through the control channel. Further, when the mobile space 9 moves in the real space and enters another service area, the base station opposing transmission-reception apparatus 23 performs a position registration operation. The position recognition

channel transmission apparatus 24 transmits the identification number unique to the mobile space 9 and the system information described above over the position recognizing channel (see col. 4, lines 40-58). Thus the position recognition channel transmission-reception apparatus obtains information regarding the movement, i.e., location, of the mobile space, and transmits the information through position recognizing channel to the base station. Therefore, information pertained to the location, identification of the mobile space, i.e., transportation system, is managed or controlled.

Applicants further argue that there is nothing in Lehikoinen that discloses or teaches a “query receiver configured to receive an inquiry from a user asking a location of a mobile station.

Examiner respectfully disagrees.

In paragraph 34, Lehikoinen discloses a system wherein a traveler entering the train station (and the operating ranges of the train station beacons), will be able to obtain the stored train schedule information by simply selecting the services access key 420 on the user's mobile station. This will cause a service request to be wirelessly communicated to a beacon disposed in relative close proximity to the mobile station, **whereupon available location-based information will be transmitted to the requesting mobile station for conveyance to the user, e.g., as a text or audio message, etc.**

Additionally, if the user receives location information, the information had to be transmitted to the user via a transmitter. Also, Lehikoinen discloses train schedule information, such arrival (future location), and departures is continuously updated. Therefore, one skilled in

the art would unhesitatingly conceptualize that the user receive response that contains arrival information (i.e., scheduled future location).

As related to location querer responsive to the inquiry to find if the mobile station is situated on transportation, Kojima, which was combined with Lehikoinen, discloses a provider wherein a mobile station is present in a train or a bus and moves together with the mobile space (see abstract). Thus, as the train or the bus moves, the mobile station also moves. And the direction and speed of the vehicle (train or bus) would also be the direction or speed of the mobile station. Kojima discloses a provider comprising an indication as to whether or not a mobile station is situated on a transportation (see fig. 5, col. 4, lines 13-30), and wherein the position of the mobile station is updated depending upon the position data of the mobile space 9 (i.e., see col. 5, lines 3-40).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22-30, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima in view of Tuohino, U.S. Patent No. 5577264.

Regarding claim 22, Kojima discloses a location management apparatus functionally located in a mobile communication network, the location management apparatus maintaining a location of a mobile station within a mobile communication network for wirelessly

communicating with the mobile station (see abstract), comprising: a communication control configured to communicate with the mobile station using the mobile communication network, and receive from the mobile station an identification of a transportation on which the mobile station is carried (i.e., the position registration method for a cellular mobile communication system may be constructed such that an identification number unique to the mobile space is transmitted over the position recognition channel in the mobile space, and the mobile station which receives the identification number transmits the identification number to the base stations over a control channel to perform a position registration operation into the switching control station) (see col. 2, lines 24-34); a location information storage in which the location of the mobile station is identifiable with reference to the identification of the transportation notified by the mobile station (see fig. 5, col. 4, lines 13-30); a transportation location finder configured to identify a communication area where the transportation is situated, based on movement information obtained from a traffic control that manages an operation of a transportation system including the transportation on which the mobile station is carried (i.e., the switching control station 7 has a function of updating, when the mobile space moves in the real space and performs a position registration operation, also the position information of the mobile station from the identification number of the mobile space, in which the mobile station is present, acquired through the base station) (see col. 4, lines 40-45, and col. 5, lines 3-12).

--- In the specification, the functionality of "traffic control" is disclosed as an entity that notifies the server of the movement information when detecting movement of the object (paragraph 13), and that generates movement information on the object identified by the object identifying information; and transmitting generated movement information to the server

(paragraphs 20-21). Kojima discloses that the switching station acquires position information of the mobile station, which moves together with a mobile space, is acquired through the base stations (see col. 2, lines 8-10). Thus, the switching control station 7 of Kojima updates the position information based on information obtained from the base stations. As such, Kojima reads on the limitation.

Although Kojima discloses an apparatus as described, Kojima does not specifically disclose an apparatus comprising a paging control configured to, when a call for the mobile station comes, access the location information storage so as to find the communication area where the transportation is situated, determined by the transportation location finder and cause a paging signal transmitted within the communication area.

However, Tuohino discloses an apparatus comprising Tuohino a paging control configured to, when a call for the mobile station comes, access the location information storage so as to find the communication area where the transportation is situated, determined by the transportation location finder and cause a paging signal transmitted within the communication area (i.e., in the call set-up, a two-stage interrogation is conducted: first, the identifier of the subsystem is obtained as the location data of the mobile station; second, the current location of the subsystem where the call will be routed to is obtained by means of the identifier of the subsystem) (see abstract, and col. 5, lines 38-62).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Kojima with the teachings of Tuohino to arrive at the claimed invention. A motivation for doing so would have been to reduce the signaling load in a cellular radio network (see col. 2, lines 9-13).

Regarding claim 23, Kojima discloses an apparatus (see claim 22 rejection) wherein the communication area is a paging area (see col. 2, lines 3-22).

Regarding claim 24, Kojima discloses an apparatus as described above (see claim 22 rejection).

Although Kojima discloses an apparatus wherein when the mobile station is in the mobile space, the registration position of the mobile station is updated depending upon updating of the position registration of the mobile space (i.e., identification of a transportation on which the mobile station is carried) (see abstract), Kojima does not specifically disclose an apparatus wherein the location information storage is updated by a registration request from the mobile station which identifies either a communication area which the mobile station enters or a transportation on which the mobile station is carried.

However, Tuohino discloses an apparatus wherein an apparatus wherein the location information storage is updated by a registration request from the mobile station, which identifies either a communication area, which the mobile station enters, or a transportation on which the mobile station is carried (see abstract and col. 4, lines 1-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Kojima with the teachings as described by Tuohino to arrive at the claimed invention. A motivation for doing so would have been to provide an accurate up-to-date location information database.

Regarding claim 25, Kojima discloses an apparatus (see claim 22 rejection) wherein the transportation location finder determines the communication area where the transportation is situated, using a geographical location of the transportation contained in the movement

information (i.e., when the mobile space 9 moves into the service area 2 in the real space, although it becomes impossible to receive the control channel 15, the mobile station 27 does not perform a position registration operation but reads out the system information of the destination of the movement from the position recognition channel 25 and starts use of a new control channel 13) (see col. 6, lines 16-31).

Regarding claim 26, Kojima discloses an apparatus as described above (see claim 22 rejection).

Although Kojima discloses an apparatus as described, Kojima does not specifically disclose an apparatus wherein the transportation location finder is activated to find the communication area where the transportation is situated when a communication when a call is received for the mobile station being carried on the transportation.

However, Tuohino discloses an apparatus wherein the transportation location finder is activated to find the communication area where the transportation is situated when a communication when a call is received for the mobile station being carried on the transportation (i.e., a call to a mobile station registered in the mobile subsystem is routed as follows: the location data of the mobile station stored in the cellular radio network is interrogated, the location data being the identifier of the mobile subsystem, the location data which corresponds to the subsystem identifier and is stored in the cellular radio network is interrogated, the call is routed to the subsystem and further to the mobile station by means of the location data of the subsystem) (see abstract, and col. 2, lines 55-67).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Kojima with the teachings of Tuohino to arrive at the claimed

invention. A motivation for doing so would have been to reduce the signaling load in a cellular radio network (see col. 2, lines 9-13).

Regarding claim 27, Kojima discloses an apparatus (see claim 22 rejection) wherein the location information storage and the transportation location finder are located on different servers functionally connected to each other (see fig. 5, col. 4, lines 14-30).

Regarding claim 28, Kojima discloses an apparatus (see claim 22 rejection) wherein the location information storage comprises a first table in which the locations of the mobile stations are identified with reference to the transportation on which some of the mobile stations are being carried and communication areas where the other of the mobile stations are situated, and a second table in which locations of the transportation are identified with reference to communication areas where the transportations are situated (see fig. 5, col. 4, lines 14-30, and lines 59-62. Also refer to Tuohino col. 5, lines 1-17).

Regarding claim 29, Kojima discloses an apparatus (see claim 28 rejection) wherein the second table is updated by an update request from the transportation location finder receiving the movement information of the transportation (see col. 4, lines 40-45. Also refer to Tuohino col. 5, lines 1-17).

Regarding claim 30, Kojima discloses an apparatus as described above (see claim 22 rejection).

Although Kojima discloses an apparatus as described, Kojima does not specifically disclose an apparatus further comprising a receiver that receives travel information from the mobile station, which transmits the travel information in response to the paging signal initiated by the location management apparatus.

However, Tuohino discloses an apparatus further comprising a receiver that receives travel information from the mobile station, which transmits the travel information in response to the paging signal initiated by the location management apparatus (i.e., when a MS moves to a mobile system MCPN (located e.g. on a train), the MS effects location updating to the MCPN. The MCPN, in turn, transmits the information on the location of the MS to the fixed cellular radio network, which stores the corresponding logical location area, i.e. identification data of the MCPN, as the location data of the MS, wherein a call to a mobile station registered in the mobile subsystem is routed as follows: the location data of the mobile station stored in the cellular radio network is interrogated, the location data being the identifier of the mobile subsystem, the location data which corresponds to the subsystem identifier and is stored in the cellular radio network is interrogated, the call is routed to the subsystem and further to the mobile station by means of the location data of the subsystem) (see abstract, col. 2, lines 55-67, and col. 5, lines 11-17).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Kojima with the teachings of Tuohino to arrive at the claimed invention. A motivation for doing so would have been to reduce the signaling load in a cellular radio network (see col. 2, lines 9-13).

Regarding claim 37, Kojima discloses an apparatus wherein a location of a mobile station stored in the location information storage is updated by a registration request from a transportation which identifies the transportation and the mobile station (i.e., when the mobile station is in the mobile space, the registration position of the mobile station is updated depending upon updating of the position registration of the mobile space) (see abstract).

5. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima and Tuohino, further in view of Drury, U.S. Patent No. 6707421.

Regarding claim 31, the combination discloses an apparatus as described above (see claim 25 rejection).

Although the combination discloses an apparatus wherein travel information comprises a geographical location of the mobile station, and a traveling direction thereof (see Kojima abstract, col. 4, col. 6, lines 25-31, and lines 33-39), the combination does not specifically disclose an apparatus wherein the travel information comprises a traveling speed.

However, Drury discloses an apparatus wherein a positioning system for generating position data related to a geographic location of the system, and a wireless communication device (see abstract), wherein location related data, including speed and orientation data is sent to the server system (see col. 25, lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to provide accurate and updated information as related to the location of the mobile station.

6. Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima and Tuohino, further in view of Jones, U.S. Patent No. 6363323.

The combination discloses an apparatus as described above (see claim 25 rejection).

Although the combination discloses an apparatus as described, the combination does not specifically disclose an apparatus wherein the travel information comprises a traveling speed; and further comprising transportation travel information storage accessible by the transportation location finder, which maintains geographical locations of the transportations (as related to claim 32); wherein the transportation travel information storage stores travel statuses of the transportations, wherein the travel status comprises a delay in schedule (as related to claim 33); wherein the travel status of the transportations are receivable by the location management apparatus (as related to claim 34).

However, Jones discloses a vehicle tracking system includes a sensor (e.g., a GPS sensor) and a vehicle control unit (VCU) attached to a vehicle. The sensor determines the vehicle's location based on positioning signals received from a plurality of satellites. The VCU compares the vehicle's location to a predefined schedule. The predefined schedule includes a plurality of entries where each entry corresponds to a location along the vehicle's route of travel. Furthermore, each entry includes a location value indicating the location that corresponds with the entry and a time value indicating when the vehicle should be at the location. The VCU determines whether the vehicle is on schedule or off schedule (i.e., delay) by comparing the current location of the vehicle (as determined by the sensor) and the amount of time elapsed since the start of the route with the entries in the predefined schedule. If the vehicle is off schedule, then the VCU transmits a status message to a remote location indicating how much the vehicle is off schedule (see abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation

for doing so would have been that accurate and updated information as related to location is provided.

7. Claims 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima, Tuohino, and Jones, further in view of Lehikoinen et al. (Lehikoinen), Pub. No. US 20020077060.

The combination discloses an apparatus as described (see claim 32 rejection).

Although the combination discloses an apparatus as described, the combination does not specifically disclose an apparatus further comprising a schedule information storage that stores travel schedules of the transportations, wherein based on information stored in the transportation travel information storage and the schedule information storage, the location management apparatus determines a future location of a transportation; and wherein the travel schedules of the transportations are receivable by the location management apparatus.

However, Lehikoinen discloses an apparatus wherein one or more beacons disposed in a train station may receive continuous updates on train schedule information such as arrivals, departures and track changes. A traveler entering the train station (and the operating ranges of the train station beacons), will be able to obtain the stored train schedule information by simply selecting the services access key 420 on the user's mobile station. This will cause a service request to be wirelessly communicated to a beacon disposed in relative close proximity to the mobile station, whereupon available location-based information will be transmitted to the requesting mobile station for conveyance to the user, e.g., as a text or audio message.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been that accurate and updated information as related to location is provided.

8. Claims 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Lehikoinen et al. (Lehikoinen), Pub. No. US 20020077060, in view of Kojima.

Regarding claim 47, Lehikoinen discloses a location information provider comprising a query receiver configured to receive an inquiry from a user asking a location of a mobile station (see paragraph 34); a memory that stores time schedules of transportations (see paragraph 34); a location estimator configured to determine a future location (i.e., schedule information such as arrival) of the mobile station by referring to the time schedules stored in the memory (see paragraph 34); and a transmitter configured to transmit to the user a response which comprises the determined future location of the mobile station (see paragraph 34)--- (i.e., one or more beacons disposed in a train station may receive continuous updates on train schedule information such as arrivals, departures and track changes. A traveler entering the train station (and the operating ranges of the train station beacons), will be able to obtain the stored train schedule information by simply selecting the services access key 420 on the user's mobile station. This will cause a service request to be wirelessly communicated to a beacon disposed in relative close proximity to the mobile station, whereupon available location-based information will be transmitted to the requesting mobile station for conveyance to the user, e.g., as a text or audio message).

Although Lehikoinen discloses a provider as described, Lehikoinen does not specifically disclose a provider comprising a location querer responsive to the inquiry to find if the mobile station is situated on a transportation and locating the mobile station based on that information.

However, Kojima discloses a provider wherein a mobile station is present in a train or a bus and moves together with the mobile space (see abstract). Thus, as the train or the bus moves, the mobile station also moves. And the direction and speed of the vehicle (train or bus) would also be the direction or speed of the mobile station. Kojima discloses a provider comprising an indication as to whether or not a mobile station is situated on a transportation (see fig. 5, col. 4, lines 13-30), and wherein the position of the mobile station is updated depending upon the position data of the mobile space 9 (i.e., see col. 5, lines 3-40).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention to combine the teachings as disclosed by Lehikoinen with the teachings disclosed by Kojima to arrive at the claimed invention. A motivation for doing accurately estimate the current path of the mobile station.

Regarding claim 48, Lehikoinen discloses a provider as described above (see claim 47 rejection).

Although Lehikoinen discloses a provider as described, Lehikoinen does not specifically disclose a provider wherein the location querer also finds, if the mobile station is situated on a transportation, a current location of the transportation and an identification of the transportation, and the response comprises the current location of the transportation and the identification of the transportation.

However, Kojima discloses a provider wherein a position registration method for a cellular mobile communication system may be constructed such that an identification number unique to the mobile space is transmitted over the position recognition channel in the mobile space, and the mobile station which receives the identification number transmits the identification number to the base stations over a control channel to perform a position registration operation into the switching control station (see col. 2, lines 24-34). The switching control station 7 has a function of updating, when the mobile space moves in the real space and performs a position registration operation, also the position information of the mobile station from the identification number of the mobile space, in which the mobile station is present, acquired through the base station (see col. 4, lines 40-45, and col. 5, lines 3-12) ---Also refer to col. 5, lines 3-40.

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention to combine the teachings as disclosed by Lehikoinen with the teachings disclosed by Kojima to arrive at the claimed invention. A motivation for doing accurately estimate the current path of the mobile station.

### *Conclusion*

**9. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PIERRE-LOUIS DESIR whose telephone number is (571)272-7799. The examiner can normally be reached on Monday-Friday 9:00AM- 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (571)272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pierre-Louis Desir/  
Examiner, Art Unit 2617

/Dwayne D. BOST/  
Supervisory Patent Examiner,  
Art Unit 2617

<b>Application Number</b> 	Application/Control No.	Applicant(s)/Patent under Reexamination
	10/082,797	SAWADA ET AL.
Examiner	Art Unit	
PIERRE-LOUIS DESIR	2617	